

Jim Mandros,

Regret we are late in mailing you this copy of the translation, but in effect Wednesday of this week is our first working day since we had to relocate our Offices on Monday and Tuesday.

attached herewith are the two chapters of interest to our analyst for your review. These two chapters contain 5,600 words of the 26,000 word booklet.

If you still wish the entire booklet translated, the cost will be \$17.00 per thousand words, approximately \$350.00 for the remaining chapters.

Upon completion of your review and approval by your staff, the translation should be completed within four to five weeks depending on the workload of the translators.

Yours Truly

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Committee on Exchanges
351-2492

USSR

WATER POLLUTION LEGISLATION

Moscow PRIRODA POD OKHRANOY ZAKONA [Nature Under the Protection of the Law] in Russian 1975 pp 61-76, 114-127

[Chapters from the brochure PRIRODA POD OKHRANOY ZAKONA by O. S. Kolbasov, edited by M. M. Slavin, candidate of juridical sciences, Izdatel'stvo Moskovskiy Rabochiy, 1975, 128 pages]

[Text] Do Not Spit in the Well

These words of the old Russian proverb express very precisely man's concern for a source of water. People understood long ago that places where water is kept must be protected from pollution.

Unfortunately, pollution of water is one of the most dangerous and widespread phenomena that lead to deterioration of the condition of man's environment. A persistent struggle has been waged for a long time and will continue to be waged against it. This struggle requires the mobilization of forces of state agencies, scientific, design, construction and other economic organizations and also the broad masses of workers.

In recent years organizational and technical measures directed toward avoiding pollution of the bodies of water have been carried out on a large scale. Water purification and other water management structures are being constructed. Immediate measures have been earmarked for organizing closed cycle water supply. Ministries and departments of the RSFSR have begun to allot greater amounts of capital investments for the construction of sewage installations and equipment for rendering wastes harmless. Under the Eighth Five-Year Plan more than 4,000 purification complexes were put into operation for purification of industrial wastes. Many of them are large biochemical enterprises. This made it possible to increase purification by 15 million cubic meters of water a year. During the same period systems were introduced for recycling 70 million cubic meters of water a day. The work for utilization of valuable products from waste waters has been improved. As a result there has been an appreciable improvement in the sanitary condition of rivers, lakes and water reservoirs. Under the Ninth Five-Year Plan installations are being put into

operation for purification of wastes with an overall capacity that is 3.3 times greater than that under the last five-year plan.

An immense amount of work has been done in this area in Moscow Oblast. Here the discharge of waste waters has been reduced from 1.8 million cubic meters in 1963 to 30,000 in 1973.

From year to year there are more and more enterprises which, while increasing the output of products, have reduced the consumption of water and curtailed pollution of the bodies of water. They include the Novogor'kovskiy and Ryazan' petroleum processing plants, the Ust'-Izhora Plywood Plant and others.

Measures taken by the government of the republic, local soviet agencies, economic and social organizations have made it possible to put a halt to the increase in pollution in a number of important rivers and to improve their sanitary condition. But the problem of protection of the waters is still very important and critical.

The Fundamentals of Water Legislation of the USSR and the Union Republics, the republic water codes and other legal documents have envisioned a number of important conditions and requirements directed toward insuring protection of the waters from pollution.

As distinct from previously effective legislation, present legislation completely prohibits the discharge of production, household and other kinds of wastes and byproducts into the seas, lakes and rivers. The discharge of waste waters is allowed only with the observance of a whole number of special requirements that are stipulated by legislation and are directed, in the final analysis, toward an essential limitation of the discharge of these wastes.

It is impossible for the law to completely prohibit the discharge of waste waters into the bodies of water. This would be unrealistic and impracticable. People take water and use it. But this does not make the water disappear. It must go somewhere and be thrown away. It is impossible to get rid of certain kinds of industrial waste waters because we have still not found means of production that do not involve the use of liquid to cover all cases. Discharges of drainage waters from the ever increasing areas of irrigated land have also not been eliminated. Finally, the discharge of waste waters has a useful side as well: it is necessary for maintaining the normal hydrological regime of our bodies of water. For example, in 1971 the intake of water from the rivers, lakes and water reservoirs in the RSFSR for the needs of the national economy and the population amounted to more than 104 cubic kilometers. If a large part of this water had not been returned to the rivers, lakes and water reservoirs in the form of waste waters, many of them would have ceased to exist.

Without prohibiting the discharge of waste waters, Soviet legislation stipulates measures so as to reduce the pollution of seas, rivers, lakes and underground water resources. Two basic tasks are set here: not to allow the

appearance of new causes of pollution and gradually to limit, reduce to a minimum and, finally, completely eliminate existing causes of pollution of bodies of water.

To these ends, the law prohibits the startup of new and reconstructed enterprises, shops, aggregates, municipal and other projects that are not provided with devices for avoiding pollution. This is a very important rule which, if consistently followed, will make it possible to achieve great successes in protection of the water. The responsibility for following this rule lies basically with the state acceptance commissions and managers of ministries and departments, main boards, trusts and individual enterprises.

In order to increase the guarantees against accepting economic projects that are not provided with means for protection of water from pollution, authoritative state agencies have established that the construction of enterprises that discharge wastes must be carried out in such a way that installations for purification of the wastes are constructed before the startup of the basic industrial projects. It is recommended to USSR ministries and departments, the councils of ministers of the Union republics and design and construction organizations that they:

Provide a separate line in the itemized lists of construction sites and projects for the construction of purification installations, envisioning the necessary capital investments for this and the volumes of construction and installation work and establishing earlier deadlines for the completion of their construction;

Include the construction of purification installations in the startup complexes of enterprises in volumes providing for complete purification of waste waters of production objects that have been started up, in keeping with the plan;

Construct purification installations strictly within established time limits, promptly providing blueprints and material and technical resources for them, keeping in mind that installations for the purification of wastes must be completed with the construction and pass the necessary tests before the startup of the basic production objects of the enterprise.

But the changeover to waterless production technology should be considered to be the most progressive way of precluding the appearance of new instances of industrial pollution. It is necessary to design and construct enterprises in such a way that they do not use water at all and do not discharge waste waters. To accomplish this it is necessary to develop research on new production technology in all branches of industry and to utilize the achievements of modern science and technology more effectively.

Preventive measures play a large role in solving problems related to the inadmissibility of the appearance of sources or factors in pollution. This is why in a number of cases legislation makes it incumbent on enterprises,

institutions and organizations to take all necessary measures to prevent pollution.

Typical in this regard is the obligation stipulated in article 38 of the Fundamentals of Water Legislation which pertains to the makeup of the area where water is discharged, that is, the territory on whose surface water from atmospheric precipitation (rain, snow) is collected, water which flows into the bodies of water and also forms the underground streams.

Enterprises, organizations and institutions are obliged not to allow pollution or obstruction of surface catchment areas, the ice cover of seas, rivers, and lakes or the surface of glaciers with industrial, household and other wastes, refuse or discharges and also petroleum and chemical products whose washoff causes deterioration of the quality of surface and underground waters.

Moreover, obligations of a preventive nature have been established for transportation, agricultural and several other kinds of enterprises.

Those in charge of the means of water transportation, pipelines, floating and other installations on bodies of water, timber-floating organizations and also other enterprises, organizations and institutions are obligated not to allow pollution and silting up of the water as a result of losses of oil, wood, and chemical, petroleum and other products.

The administrations of state water management systems, kolkhozes, sovkhoses and other enterprises, organizations and institutions are obligated to avoid pollution of the hydrosphere with fertilizers and toxic chemicals.

As for the gradual limitation and subsequent complete elimination of existing sources of pollution, this task is being carried out through strict regulation of all conditions for the admissibility of discharging wastes in each individual case (places, times, quantities and qualities) and through extensive, energetic economic and organizational work in order to introduce progressive methods of production (dry technology, replacement of water cooling with air cooling, changeover of existing enterprises to closed recycling water supply systems) and also through providing for reliable purification of waste waters (industrial, municipal, drainage, rain water and mine water).

Before the Fundamentals of Water Legislation became effective there was no single policy for establishing the right to discharge waste waters. Enterprises, institutions and organizations were guided by documents of state receiving commissions that accepted industrial and municipal sewage installations for operation. The rules for protection of surface waters from pollution with waste waters that were established in 1961 introduced strict control and stipulated that agencies for the utilization and protection of water should issue conclusions regarding the conditions for release of waste waters. These conclusions must be renewed every 3 years.

When the aforementioned Fundamentals were put into affect a single policy was established for permitting the discharge of waste waters both into surface and into underground bodies of water. This means that permission from the agency for regulating the utilization and protection of water filled out under the established policy must be obtained for each individual discharge into a river, lake or sea. The permission is a document that certifies the right of one enterprise, organization or institution or another to discharge water. The permission points out the institution, the body of water, the place, the kind and quantity of waste waters that are to be discharged, their makeup, their temperature, the degree of purification, possible deviations from the amounts of discharges at various times and other legal and technical data.

The conditions and requirements placed on water users when discharging waste waters are differentiated depending on whether the discharge is into surface bodies of water or into underground water-bearing horizons. In a number of cases legislation completely prohibits discharge of waste waters into surface bodies of waters, regardless of the degree of purification (for example, in zones of sanitary protection of the sources of the centralized drinking water supply, health resorts, and places that are designated for bathing). In the other sections of the bodies of water it is permitted to discharge only purified waste waters.

According to existing legislation the term "purified waste waters" is defined by the sum of requirements which must be satisfied with respect to the quality of the water that is discharged after its utilization and subsequent purification by each enterprise that discharges water individually. There is no single understanding of purified water that is the same for all enterprises that discharge it. On the contrary, for each of them agencies for regulating the utilization and protection of water outline the requirements concerning the conditions for the discharge of water. Therefore waste waters are recognized as purified if they satisfy the qualitative characteristics and in general those conditions under which their discharge is sanctioned by agencies for regulating the utilization and protection of water.

Enterprises are forbidden to discharge waste waters that contain valuable by-products which can be utilized by one enterprise or another that is interested in these byproducts. It is also not allowed to discharge wastes that contain industrial raw material, reagents, semimanufactured products and final products of production in quantities that exceed the normatives for admissible technological losses for the corresponding industry that are established by the management organization. Observance of these rules should be controlled primarily by state agencies and directly by the management of the enterprises.

Exercise of the right to discharge waste waters into surface bodies of water hinges on meeting requirements not only with respect to its quality, but also with respect to quantity. Enterprises do not have a right to increase the quantity of waste waters discharged into the bodies of water when the established policy prohibits this. On the contrary, they are obligated to do

everything possible to reduce their quantity with the permissible quality, displaying initiative in rationalization of production technology and in creating circulating water supply systems.

The right to discharge purified waste waters into surface bodies of water is conditioned by observance of the requirements not only with respect to quality and quantity, but also with respect to the place of their discharge. Enterprises do not have the right to arbitrarily change the place in which the water is discharged.

The rights and responsibilities of enterprises, institutions and organizations that use surface bodies of water for discharging waste waters are restricted, finally, by the requirements of legislation pertaining to regular self-control over water utilization.

The general rules determining the policy for discharging waste waters into underground water-bearing horizons are stipulated in the decree of the USSR Council of Ministers "On Establishing State Control Over the Utilization of Underground Waters and on Measures for Their Protection" of 4 September 1959 and the Provisions for the Policy for Utilization and Protection of Underground Waters on the Territory of the USSR that was approved in April 1960 by the USSR Ministry of Geology and Protection of the Earth's Interior and the USSR Main State Sanitation Inspection Team.

The drilling of inverted wells and the installation of inverted wells for discharging industrial and domestic and fecal waste waters of enterprises is forbidden in all cases when these wells can be sources of pollution of the water-bearing horizon which is being used or is intended for use and also which can be used for the domestic water supply or for therapeutic purposes.

Permission to drill inverted wells is granted only after conducting special hydrogeological and sanitary-bacteriological investigations that prove that it is impossible for the discharge of wastes to affect the water-bearing horizons that are being used or are intended for use and also those that can be used for purposes of water supply or for therapeutic purposes, on open bodies of water and on adjacent territory and under the condition that the absorptive horizon has adequate capacity.

Inverted wells must have reliable installation of the upper horizon through which the well passes from pollution with waste waters that are discharged into the well, taking into account possible corrosion of the casings.

It is prohibited to install inverted wells in belts I and II of zones for sanitary protection of sources of water supply.

It is also prohibited to discharge into inverted wells waste waters that contain radioactive substances; in exceptional cases after special investigations have been conducted this can be permitted with the agreement of the USSR Ministry of Health and the USSR Ministry of Geology.

Thus the discharge of waste waters is permitted only in cases where it does not lead to an increase in the content of polluting substances in the body of water that is higher than the established norm and under the condition that the water user purifies the waste waters up to the limits established by the agencies for regulation of the utilization and protection of water.

If the aforementioned requirements are not met, the discharge of waste waters can be limited, halted or prohibited by agencies for regulating the utilization and protection of water, right down to halting the activity of individual industrial installations, shops, enterprises, organizations and institutions. In cases where the health of the population is threatened, agencies exercising state sanitary supervision have a right to put a stop to the discharge of wastes right down to stopping the operation of the industrial and other objects after the agencies for regulation of the utilization and protection of water have made notification of this.

Organizing and providing for legal protection of water from pollution, the Soviet State takes into account that any kinds of negative effects related to its utilization usually involve entire physical and geographical basins. Therefore a great deal of importance is attached to measures for protection of water in basins of the main rivers, lakes and seas.

Thus with the decree "On Additional Measures for Insuring Rational Utilization and Protection of the Natural Riches of the Lake Baykal Basin," the CPSU Central Committee and the USSR Council of Ministers made it incumbent on the ministries and departments involved in the utilization of the natural riches of Baykal to take the necessary protective measures. In order to implement this decree dozens of purification installations have been constructed at enterprises that are located in the Baykal area. Steam driving of timber has been completely curtailed on all rivers that flow into the lake. Waterlogged wood is cleaned out of their tributaries. A plan for the organization of a water protection zone around the lake has been approved. The USSR Ministry of Land Reclamation and Water Resources has approved "Temporary Rules for Protection of the Water of Lake Baykal and the Natural Resources of its Basin" which are mandatory for all ministries and departments, enterprises, institutions and organizations.

The temporary rules which apply to a territory of about 30 million hectares determine the policy for application of effective means of protection of the natural resources of Baykal. The rules prohibit continuous felling of trees on slopes that are steeper than 15 degrees. A protective zone has been established along the banks of rivers where fish of salmon and sturgeon varieties go to spawn. Within its limits it is prohibited to fell trees, to apply chemical means for protection of plants, to store fertilizers and so forth. Only organized tourism is allowed within the water protection zone of Baykal. The development of tourism should preclude even minimum damage to the sensitive "organism" of the lake and should provide for saving on the supplies of trees and animals for hunting. Preserves have been set aside along the banks of the lakes and places have been determined for the construction of sanatoriums, recreation facilities and bases.

Extensive measures have been taken for protection of nature and the basins of the Volga and Ural rivers. But certain ministries and departments are still not concerned enough about protection of the purity of these rivers. They are slow in doing work for insuring purification of waste waters at enterprises under their jurisdiction and they do not completely assimilate capital investments that are allotted for the protection of waters.

In connection with this, the CPSU Central Committee and the USSR Council of Ministers adopted the decree "On Measures for Avoiding Pollution of the Basins of the Volga and Ural Rivers With Unpurified Waste Waters."

The decree established concrete assignments for the ministries and departments of the USSR regarding construction of purification installations at 421 enterprises valued at about 700 million rubles. In 15 cities that are located on the Volga and Kama rivers it is planned to construct city purification installations valued at more than 300 million rubles.

The RSFSR Council of Ministers and the Kazakh SSR Council of Ministers have been instructed to develop and implement measures for complete elimination by 1980 of discharges of unpurified business and household waste waters in all cities that are located in the basins of the Volga and Ural rivers, enlisting funds of USSR ministries and departments under a policy of shared participation.

It was suggested to the USSR Ministry of the Fishing Industry, the RSFSR Ministry of the River Fleet and other ministries and departments that have fleets in the basins of the Volga and Ural rivers that they equip ships traveling along these rivers with devices and systems for discharging polluted business and domestic wastes and bilge waters and also that they gather up petroleum products and other polluting liquids and solid wastes from ships, aquatoriums and territories of ports in the basins of these rivers.

In order to protect the basins of the Caspian and Asov seas from depletion, the Soviet State is preparing for large-scale diversion of part of the currents of northern rivers to the south. If one continues to take water from the Volga, Ural, Terek, Kura, Don and Kuban' without replenishing the supplies, these seas will grow shallow more rapidly and the salinity of their water will increase which has a negative effect on maritime transportation installations and shipments, affects fishing and raises many new problems.

There are several variants for diverting northern rivers into the Caspian and Azov seas. The most economical of them is the Pechora-Kama variant which is in the stage of a planning assignment. Each year the Volga will be augmented with about 40 cubic kilometers of water from the Pechora and Vychegda. It will be necessary to construct new hydraulic engineering installations and many kilometers of dams and sluices and to dig the Pechora-Kolva Canal. Along with solving the problems of the Caspian, the water reservoirs and canals that are constructed will link the Pechora with the Kama and the

Volga. Coking coal, timber and other cargoes will travel along this water route to the southern and central regions. The GES will operate at full capacity and the water supplies for the population, industry and agriculture will improve.

Northern water will go into the Azov Sea along the Volga-Don Canal. With artificial regulation of the exchange between the Azov and Black seas through the Kerch Straits, in the near future it will be enough for the Azov to have 5-10 cubic kilometers of water. Now research is being done on the Kerch Straits. Specialists think that in order to regulate the regime of the sea it will be necessary to construct a dam across the straits.

Thus an extensive system of state measures that are based on scientific calculations and predictions will make it possible to provide for protection, restoration and improvement in the natural supplies of water in the more inhabited and economically developed regions of the country.

However not only economic and technical measures, but also regulation of the behavior of officials and citizens is very important. The Fundamentals of Water Legislation stipulate that people guilty of the following acts are to be held criminally or administratively liable in keeping with the legislation of the USSR and the Union republics: startup of enterprises and municipal and other objects without installations and devices to avoid pollution and silting up of the waters or their harmful effects; inefficient utilization of water (that is taken or removed from water facilities); violation of the protective system at water intakes causing pollution of them, erosion of the soil and other harmful phenomena.

According to the RSFSR Criminal Code (article 223) pollution of rivers, lakes and other bodies of water and sources of water with unpurified waste waters and waters that have not been rendered harmless and wastes from business, municipal and other enterprises, institutions and organizations that causes or can cause harm to people's health or to agricultural production or fish supplies is punished by corrective labor for a period of up to 1 year or by a fine of up to 300 rubles. The same actions that cause essential harm to people's health or agricultural production or cause mass death of fish involve jail sentences of up to 5 years.

Administrative liability is applied in cases of pollution, silting up or depletion of water supplies when the guilty parties cannot be held criminally liable for these violations.

A decree of the RSFSR Council of Ministers of 18 February 1963 established that managers and other officials of enterprises, institutions and organizations and also individual citizens who are guilty of polluting and silting up surface and underground bodies of water with unpurified wastes and other violations of the rules for protection and utilization of water resources are fined under the administrative policy in the following amounts: for officials, up to 50 rubles and for individual citizens, up to 10 rubles.

As is stipulated by the Fundamentals, enterprises, organizations, institutions and citizens are obligated to reimburse losses caused by violation of water legislation in the amounts and under the policy established by legislation of the USSR and the Union republics.

The specific measure of punishment is withdrawal of the right to use water. As is pointed out in article 18 of the Fundamentals, this right of enterprises, organizations, institutions and citizens (except the right to use water for drinking and household needs) can be withdrawn in cases of violation of rules for the utilization of water and its protection.

Thus there is a well-developed system of state measures providing for legal protection of the water.

Through the Efforts of the State and the Public

The population of the Soviet Union which in 1940 amounted to 194.1 million people had increased by 9 August 1973 to 250 million people and during this same period the urban population more than doubled and at the present time amounts to 146 million people or 59 percent of the overall number of the population.

While in 1926 there were 9.5 million people, that is, 6.5 percent of the total population of the country living in large cities (with populations of more than 100,000), in 1970 there were more than 75 million residents in the cities, that is, 31 percent of the total population of the USSR. At the present time the Soviet Union has 33 cities with more than 500,000 residents.

The process of urbanization which objectively accompanied the increase in the productive forces of the society takes place in our country under the control and with the guidance of the state which is based on scientific prerequisites and all-around accounting for natural and social conditions and possible changes in these conditions under man's influence.

As distinct from a bourgeois society where urbanization is spontaneous and acquires distorted forms (overpopulation of large cities, slums, and unsanitary living conditions) and causes serious dangers, in the Soviet Union the development of cities is accompanied by an improvement in the living conditions of the people.

Comprehensively substantiated general plans for development have been approved for the overwhelming majority of cities (in the USSR there are 5,500 population points of an urban type). There are no slums in Soviet cities. On the contrary, good housing, schools, cultural and trade centers, communications and service systems are constructed and recreation zones are created.

During the last 15 years 33 million apartments have been constructed in the Soviet Union, mainly in the cities, which made it possible to offer 120 million residents, that is, more than half of the country's entire population,

new well-arranged apartments that meet modern standards. During the 5-year period of 1966-1970 more than a half billion square meters of dwelling space were constructed in the Soviet Union which is equal to 50 cities with a population of a million each. In 1971-1975 new residential buildings with an overall area of 580 million square meters (12 percent more than under the preceding five-year plan) will be constructed.

It is planned to provide the main part of the urban population with centralized water supply, to construct facilities for running water for 700 cities and workers' settlements, to extend gas lines to up to 65-70 percent of the residences in cities and settlements of an urban type and up to 40-50 percent in rural areas and to increase the utilization of electric power for household needs of the population considerably. In keeping with the five-year plan there will be accelerated construction and reconstruction of purification installations for industrial and household waste waters and gas purification and dust removal installations. Measures will be taken for reducing the pollution of the air of cities with exhaust fumes from motor vehicles. The Soviet State also regulates the numbers of urban residents by improving the building up of rural population points and thus reducing the migration of rural population to the cities, by limiting the development of industry in large cities and by planned resettlement of residents of the European part of the country in regions of Siberia and the Far East.

All this bears witness to the active influence of the Soviet State on the structure of the population and the maintenance of a favorable condition of man's environment while the cities are growing. But this does not remove the need for further measures for improving the environment in cities.

Moscow provides a clear example of a large amount of purposeful activity for protecting the environment. The 24th CPSU Congress set the task of turning Moscow into an exemplary communist city. And the basis for this is being laid ever more substantially.

During the years of Soviet power our capital has become one of the most well-arranged and one of the cleanest cities in the world, with broad main highways and streets and large areas planted in greenery. With respect to the condition of the environment and conditions for the life, labor and recreation of the population and prospects for further development, Moscow has great advantages over large cities of capitalist countries.

The new General Plan for the Development of Moscow which was approved by the CPSU Central Committee and the USSR Council of Ministers has created an expert commission of urban construction which will make it possible to solve the complex of social, economic, technical and sanitary-hygienic problems that determine the further paths of the formation of the capital. One of the most important provisions in the plan is improvement in the base for urban formation. New industrial enterprises should not be constructed or existing ones expanded in Moscow with the exception of those that are necessary for serving the needs of the city and satisfying the needs of the population.

The General Plan envisions basic improvement in the planning and building up of new and reconstruction of existing residential regions, the creation of sanitary protective zones between them and industrial enterprises and the observance of hygienic requirements in designs and construction.

The session of the Moscow Soviet that was held in March 1973 established immediate measures directed toward protection and improvement of the surrounding environment. The session was preceded by a great deal of preparatory work which was done by the ispolkom of the Moscow Soviet. In addition to the corresponding administrations and departments and sanitary supervision agencies, permanent commissions of the Moscow Soviet, many deputies and ministries and departments with enterprises on the territory of the city participated in this work. Through their joint efforts a plan of measures was developed and concrete assignments were earmarked for enterprises and organizations during 1973-1975 and subsequent years.

In the resolution that was adopted at the session special attention was devoted to control over fulfillment of work associated with design, construction and operation of purification installations and strict observance by all the city's enterprises and organizations of legislation for protection of nature.

It was noted at the session of the Moscow Soviet that in recent years more than 300 enterprises that pollute the environment had been erected beyond the city limits or had been reconstructed, gas had been provided for about 1,500 industrial and municipal facilities, more than 4,000 small boilers had been eliminated and purification installations had been constructed at 780 industrial enterprises and automotive enterprises. More than 7,000 gas and dust removing installations are in operation at Moscow plants and factories.

Exceptional importance is attached to the fight against pollution of the atmosphere. In order to meet the requirements of legislation the necessary measures have been taken and are being taken to reduce discharges of industrial, transportation and household pollutants into the atmosphere.

Thus at the Fizelektropribor and Bodopribor plants thermal furnaces and cupola furnaces have been replaced by electric ones. An installation has been constructed for the utilization of gases at the petroleum processing plant and the technological process at the Chemical and Pharmaceutical Plant imeni Karpov has been sealed. Smelting shops have been eliminated at automotive repair plant No 3 and the plant for reinforced concrete items No 1 and the production of washing detergents has been curtailed at the plant for household chemicals.

More automobiles operating on natural gas which pollutes the air less are being used in Moscow. At the same time urban transportation enterprises are achieving more rational utilization of all kinds of means of transportation. City automobile inspection agencies have stepped up control over the technical condition of means of transportation and are making sure that automobiles pollute the air less.

Keeping the rivers and other bodies of water in pure condition is very important in making the city environment more healthful. Because of the development of housing and industrial construction and the increased building up of the existing housing, reserves of existing water sources in Moscow are decreasing more and more. In order to replenish them a complex of objects is being constructed on the Vazuza River and the planning of the Novo-Zapadnaya Water Station has been started. This will make it possible to bring an additional 800,000 cubic meters of water a day into Moscow.

Recently many enterprises of the city have constructed and reconstructed purification installations. As a result, the discharge of unpurified waste waters has been reduced by more than 800,000 cubic meters a day. The initiative of the ispolkom of the Krasnogordevskiy Raysoviet for creating combined purification installations for 52 enterprises through shared participation is worthy of attention. This kind of consolidation makes it possible to better utilize modern equipment for purifying wastes, rendering residuals harmless and utilizing byproducts.

The removal of byproducts and cleaning the area of garbage are two of the labor-intensive processes. The quantity of household wastes is constantly increasing. While the overall volume of them in 1972 was 7.4 million cubic meters, by the end of the five-year plan it exceeded 8 million cubic meters. Moreover there is a change in the composition of the garbage with a considerable increase in the content of plastics, glass, synthetic and other materials that cannot be reprocessed.

Household wastes are mainly transported to dumps which take up more than 200 hectares of land. They are operated unsatisfactorily: the leveling and covering of sections that are used is being done with great delays and the garbage is not compacted. The average distance for the shipment of garbage has increased to 29 kilometers which has led to a considerable increase in transportation expenditures which now exceed 11 million rubles a year.

Under presently existing conditions, industrial reprocessing of household wastes at special plants has been recognized as the main way of solving the problem of rendering them harmless. In Moscow there are already several plants for reprocessing of garbage in operation. It is planned to construct two more plants with an overall capacity of 1.6 million cubic meters a year.

The high rates of development of industry and construction, the expanding network of municipal-domestic and trade enterprises, the increase in cargo and passenger transportation, and the increased capacities and speeds of means of transportation--all this leads to a rise in the noise level. And this hampers the rest and sleep of citizens and reduces labor productivity. Therefore the fight against noise is considered to be one of the most important and urgent problems. More than 380 industrial enterprises, motor vehicle bases, individual shops and repair shops which were sources of increased noise have been removed from a number of regions to industrial zones or eliminated. More than 300 boilers and heating units whose noise caused complaints have been removed from the basements of residential buildings.

In new regions a number of urban construction measures have been taken: residential buildings are located basically at a distance from the traveled areas of the streets. Stores and municipal and domestic enterprises, as a rule, are constructed in the form of buildings that stand alone. Greenery is being planted on large areas. During the last 10 years alone city and rayon organizations have planted greenery on 6,000 hectares and next to more than 400 streets and highways and they have created 20 parks and gardens and about 300 squares and spaces for greenery.

In 1973 the USSR Government adopted a special decree on measures for reducing noise at industrial enterprises and in cities and other population points.

The decree earmarked measures for introducing less noisy technological processes and when necessary applying means of automation and remote control that preclude the contact of workers with equipment that creates intensive noise. It is also envisioned to provide for maintaining pavements, trolley lines and also means of transportation, technological equipment and mechanized instruments in a condition that does not cause increased noise during use. It was decided to considerably reduce (right down to complete prohibition) work at night in yards and on streets and areas of the city when the noise from it exceeds the norms for good health.

During 1973-1975 the corresponding ministries and departments are obligated to reduce the noise level of technological equipment, the rolling stock of various kinds of transportation, machines, instruments and ultrasonic equipment.

Measures are also earmarked for increasing the volume of production of sound-insulating and sound-absorbing materials and highly effective vibration-absorbing mastics.

The State Committee for Standards of the USSR Council of Ministers has been instructed to step up state supervision of the introduction and observance of standards and technical specifications for series-produced and assimilated items, regulating the maximum noise level.

The USSR Ministry of Internal Affairs is obligated to provide supervision of the technical condition of means of automotive transportation so that the level of noise produced by them during operation corresponds to the established norms. The USSR Ministry of Health must step up sanitary supervision of the development and implementation by ministries, departments and other organizations of measures directed toward reducing noise at enterprises, in cities and in other population points.

Measures for protecting the environment should become a constituent part of the annual production plans for industrial and transportation enterprises and also city services. When designing each enterprise it is necessary to especially envision everything that is needed for protection of the atmosphere, soil and bodies of water and to insistently make sure that everything that is earmarked is unwaveringly carried out.

We are speaking not of a short-term, seasonal campaign, but of daily control over the observance of the laws. The decisions of the session of the Moscow City Soviet of Workers' Deputies were imbued with this idea. At 52 enterprises of the Moscow City Ispolkom and 203 enterprises of the ministries and departments it is planned to construct and reconstruct dust and gas removing installations. More than 200 enterprises of the city economy and 260 enterprises of the ministries and departments are to put into operation 511 installations for purification of industrial waste waters and rain water.

It is planned to construct 87 systems for circulating water supply. New technological processes that prevent pollution of both the atmosphere and the basins of rivers and other bodies of water will be developed and introduced at 106 enterprises. With the further introduction of centralized heating, more than 400 boilers and 125 enterprises and individual shops that are undesirable in the sanitary and hygienic sense are to be eliminated and it is planned to move 90 of them beyond the city limits and rebase them in industrial zones.

All these measures will be taken as part of a historically immense program: Moscow must become the first exemplary communist city.

The work of state agencies for protection of man's natural environment relies on broad public support. Republic societies for the protection of nature which combine more than 35 million people in their ranks make up a great force that assists the state in implementing the policy for protection of the natural environment. The work of the largest of these societies, the All-Russian Society for the Protection of Nature, is typical.

Having originated in 1924 and celebrated its "golden" anniversary at the end of 1974, it now includes about 26 million people which makes up more than 19 percent of the population of the Russian Federation. There are 66,000 industrial enterprises, kolkhozes, sovkhozes and institutions that make up the collective members of the society.

The All-Russian Society for the Protection of Nature has organized a mass public movement under the motto "For a Leninist attitude toward nature," within the framework of which a great deal of varied work has been done: trees have been planted on an area of about 3 million hectares, control over the condition and utilization of land, water resources and other natural riches has been stepped up; and extensive propaganda has been developed for the ideas of protection of nature. Many industrial enterprises have created public technical committees and control posts for the protection of nature.

Thousands of scientists and specialists who are capable of rendering expert assistance when drawing up recommendations concerning urgent problems in the protection of nature work in the various kinds of subdivisions of the society --sections and scientific-technical councils.

On the initiative of the Central Committee of the Society, in 1965 and 1969 all-Russian inspections were conducted to check on the observance of the law concerning protection of nature in the RSFSR. The inspections were broadly supported by local soviets of workers' deputies. In the Dagestan, Buryat, Kabardino-Balkar and Kalmyk autonomous republics, sessions of the supreme soviets of these republics were held and in Moscow, Leningrad, Volgogradskaya, Rostovskaya, Tul'skaya, Kuybyshevskaya and other oblasts there were sessions of the oblast and rayon soviets of workers' deputies. In 1974 a third all-Russian inspection was declared for public checking on observance of legislation for protection of nature.

The Central Council and local organizations of the Society have considerably increased the publicity given to questions of protection of nature and the mass measures for protection of nature. With the cooperation of the Society, at the present time there are more than 500 people's universities and departments for protection of nature in operation. During 5 years, through the efforts of members of the Society, more than 2 million lectures, speeches and discussions have been held, more than 16,000 exhibitions have been organized, more than 200,000 articles and letters on subjects pertaining to protection of nature have been published in the central and local press, 3.5 million posters and pamphlets have been published and there have been 1.5 million showings of movies on protection of nature.

The funds of the Society have been used to construct and operate 52 buildings for the protection of nature which have become real centers for propagandizing Lenin's ideas on protection of nature. A "Day of Nature" will be held in a number of oblasts of the RSFSR (Leningrad, Volgogradskaya, Kuybyshevskaya and others). In addition to lectures, speeches and discussions, on this day practical work is organized for planting greenery in population points and along roads, building parks and lanes, dividing up squares, creating local organizations of the Society, and so forth.

All this immense amount of work on the part of the Society in many cases has directly led to improvement in the quality of the environment and increased effectiveness of measures for the protection of nature. Additionally, it has brought about more widespread interest on the part of the public in the protection of nature and has stimulated further increase in the activity of the population in solving problems of protecting, restoring and improving the condition of man's natural environment.

The All-Russian Society for the Protection of Nature was awarded the Order of the Labor Red Banner for its services in the cause of protecting nature and rational utilization of natural resources and because of its 50th anniversary. Orders and medals of the USSR were also awarded to 200 activists of the Society.

Republic societies for the protection of nature and also trade unions and the All-Union Znaniye Society are doing a great deal of educational and publicity work among all segments of the population. Many members of these public organizations participate in supervising the observance of legislative

requirements for the protection of the environment, participate in the fight against poaching and so forth. A large number of public inspection teams have been created and operate to help state inspection teams for the protection of nature. They include about 140,000 people. Broad segments of the Soviet public participate in considering drafts of legislative acts pertaining to protection of man's natural environment and assist authoritative agencies and administrations in conducting measures for protection of nature.

This practice which shows the interests of the population of the Soviet Union in solving problems of man's natural environment and demonstrates the powerful move to action of the masses, to a practical solution to the problems of protection of nature is an important part of the system of the measures of the Soviet Union which are constructive and produce positive results and which are directed toward providing for the well-being of mankind from the point of view of maintaining favorable natural conditions for the life of people on earth.

There can be no doubt that the time has come when a dynamic balance will be maintained between economic development and a favorable condition of the environment.

One asks, will the need for protection of nature no longer exist then? Most likely the answer to this will be in the negative: no, the need will not fall away.

Protection of nature is not a short-term campaign which ends with the achievements of certain results. The protection of nature is a constant function of the society and the state. Just as safety of technical equipment in production is necessary as long as production exists, protection of nature is constantly necessary as long as human society exists and develops, as long as it interacts with the surrounding nature (and it cannot but interact for all of its physical existence is based in interaction with nature).

Of course, the tasks of protection of nature will change, depending on historical conditions.

In the present period which is still only the initial stage of the great scientific and technical revolution in the world, the main and immediate tasks consist in overcoming and eliminating negative consequences for the natural environment which have already arisen. In the future the main tasks will be to step up preventive work and to exercise preliminary control over each kind of activity that influences the surrounding nature. Plans for the transformation of nature will require especially serious control for the protection of nature.

The very work for protection of nature acquires the character of a profession. Even today there are specialists who are called ecologists: ecologist-designers, ecologist-technologists, ecologist-economists and so forth.

Legislation will also change. A well-arranged system of rules for protection of the surrounding environment will gradually take form. From it each person will be able and will be obligated to decide how to act with respect to nature in each specific case. These rules will ever more precisely reflect both the needs of society and the objective laws of nature. Knowledge of the rules for protection of nature will become general the same as today knowledge of the native language and the basic fundamentals of mathematics is.

Protection of nature will become a customary and habitual matter for everyone.

But this is in the future.

But today we must study and learn and master all necessary knowledge for really reasonable and efficient dealings with nature and in practice, in the process of professional work just as during recreation, we must really protect and love our land, our nature--the source of life on earth.

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